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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/563,821	01/06/2006	Markku Keskiniva	47121-5018	3523
55694 7590 01/28/2008 DRINKER BIDDLE & REATH (DC) 1500 K STREET, N.W. SUITE 1100 WASHINGTON, DC 20005-1209			EXAMINER LOPEZ, MICHELLE	
			ART UNIT 3721	PAPER NUMBER
			MAIL DATE 01/28/2008	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/563,821

Applicant(s)

KESKINIVA ET AL.

Examiner

Michelle Lopez

Art Unit

3721

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 November 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-33 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-33 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 5/18/06.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Election/Restrictions

Applicant's election with traverse of claims 1-33 in the reply filed on 11/08/07 is acknowledged and persuasive. All claims have been examined.

Priority

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Information Disclosure Statement

The information disclosure statement (IDS) submitted on 5/18/06 is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner. Note that the foreign references having English translated abstracts meet the requirements because the abstracts are considered the statement of relevance.

Specification

The abstract of the disclosure is objected to because it is in claim format. Correction is required. See MPEP § 608.01(b).

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-33 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 1, line 3-4, the limitation “means for generating a stress pulse in the tool by means of the pressure of a pressure fluid” renders the claim indefinite because two “means” are defined in the claim. In line 14, “control means are coupled” is indefinite in that it is not clear to what other structure part of the claim is such control means coupled to. Also, in line 14, “periodically alternately” is awkward and confusing.

In claims 2-3, 6, “the control means are coupled” is indefinite in that it is not clear to what other structure part of the claim is such control means coupled to.

In claims 6 and 21, “periodically alternately” is awkward and confusing.

In claims 4, 9-10, and 17, the alternative language “it” after “wherein” renders the claim indefinite.

In claims 7, 9, and 22-24 “the energy charging space” lacks antecedent basis.

In claim 9, the alternative language “or” renders the claim indefinite.

In claims 11 and 26, “the length of at least one feed channel” and “the energy charging space” lack antecedent basis.

In claims 18 and 33, “some millimeters” renders the claim indefinite since such millimeters could be any number.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-6, 13-14, 16-17, 19-21, 28-29, and 31-32 are rejected under 35 U.S.C. 102(b) as being anticipated by Ludvigson USPN 4,102,408.

Ludvigson discloses the same claimed pressure fluid operated impact device comprising a frame 10, a tool 11, control means 23, 24, a working chamber 12, a transmission piston 13 provided with a pressure surface located towards the working chamber, and energy charging means 15; stop elements for stopping movement of the piston as shown in col. 3, lines 33-61; energy charging space 15 filled with pressurized fluid and whose volume is larger compared with the volume of a pressure fluid amount to be fed in the working chamber 12; the control means 24 allow alternately pressure fluid to flow from the energy charging space 15 to the working chamber via 16 and to close connection between the energy charging space and the working chamber. The energy charging space is a tank 15 separate from the frame 10 and/or a gas accumulator 23. Means for returning the piston after an impact to its pre-impact position.

Ludvigson also discloses a method of generating a stress pulse in a pressure fluid operated impact device as claimed.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 7-11 and 22-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ludvigson USPN 4,102,408 in view of Muuttonen 7032684.

Ludvigson discloses the same claimed pressure fluid operated impact device comprising control means with a valve. Ludvigson fails to disclose wherein said valve have a plurality of openings in order to feed pressure fluid from the energy charging space via a plurality of feed channels to the working chamber simultaneously. Muuttonen shows an impact device comprising control means 18 with a valve having a plurality of openings in order to feed pressure fluid from an energy charging space 30 via a plurality of feed channels 22 to a working chamber as shown in fig. 3 for the purpose of providing a force pushing a driving piston in a direction of a tool, generating a stress pulse in the tool. It would have been obvious to one having ordinary skill in the art to have provided the control means of Ludvigson with a valve as taught by Muuttonen in order to simultaneously feeding pressure fluid to the working chamber by a plurality of channels.

It is noted that although the modified invention of Ludvigson may not explicitly disclosed a "rotating control valve", the disclosed means for transferring hydraulic fluid from a fluid space reservoir to a discharge channel is the structural equivalent and serves the same function for the apparatus.

The modified invention of Ludvigson fails to disclose wherein a length and cross-section of each feed channel are mutually the same and wherein the two feed channels differ in length and/or cross-sectional area. It would have been an obvious matter of engineering choice to have had length and cross-section area of said channels as claimed, since such a modification would have involved a mere change in the shape or form of a component. A change in shape or form is generally recognized as being within the level of ordinary skill in the art. In re Dailey, 149 USPQ 47 (CCPA 1976).

Muuttonen also shows a valve 32.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have provided the length of at least one feed channel adjustable, since it has been held that provision of a where needed, involves only routine skill in the art.

Claims 12, 18, 27, and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ludvigson USPN 4,102,408.

Ludvigson shows wherein the energy charging space is a tank 15, but fails to disclose wherein said tank walls, due to the influence of pressure, yield such that the volume of the energy charging space increase as pressure increase. The language “yield such that the volume of the energy charging space increase as pressure increase” is functional and afforded light weight because it is predicated on a future act. Furthermore, the functional language is no supported by sufficient structure to perform the joining of the ends of the wrapping material. Additionally, it would have been obvious to have provide the walls of Ludvigson tank 15 with a preferred material, i.e. an elastomer, capable of yield, i.e. expand, due increase influence of pressure, as a matter of engineering design choice.

Ludvigson also fails to specifically disclose that the length of movement of the piston is some millimeters. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have provided a desired range of movement of said piston, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art.

Claims 15 and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ludvigson USPN 4,102,408 in view of Keskiniva et al. USPN 7,252,154.

Ludvigson discloses a transmission piston as discussed above, but fails to disclose wherein said piston is a membrane type piston. Keskiniva shows a membrane type piston 4b. The substitution of one known element (membrane type piston as shown in Keskiniva) for another (transmission piston as shown in Ludvigson) would have been obvious to one of ordinary skill in the art at the time of the invention since the substitution of the membrane type piston shown in Keskiniva would have yielded predictable results, namely, positively transmitting pulse stress to the tool in Ludvigson to provide an impact.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. See the attached PTO-892 for related art.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michelle Lopez whose telephone number is 571-272-4464. The examiner can normally be reached on Monday - Thursday: 8:00 am - 6:00 pm.

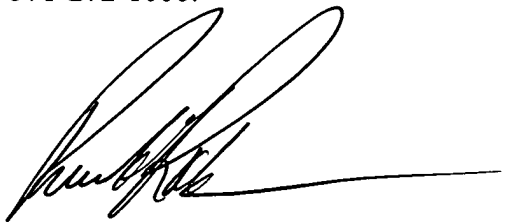
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rinaldi Rada can be reached on 571-272-4467. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/ML/
Patent Examiner



Rinaldi I. Rada
Supervisory Patent Examiner
Group 3700